COSC FACULTY CANDIDATE 2010 SEMINAR

SPEAKER: Dr. Tiancheng Li, Purdue University
WHEN: April 5, 2010
TIME: 11:00 AM
WHERE: PGH 232

Title: Privacy Preservation in Data Publishing and Sharing

Abstract:
In this information age, data are increasingly being collected by various organizations and government agencies for the purpose of data analysis. To facilitate data analysis, it is often necessary for these organizations to publish and share the data. However, data publishing poses privacy risks to the individuals. A recent spectacular privacy attack is the AOL incident in 2006.
In the first part of this talk, I will demonstrate two attacks on a popular privacy measure called l-diversity and present t-closeness, a formal privacy measure that provably bounds the attacker's knowledge gain from the anonymized data. Another challenging problem in data publishing is how to model and integrate the adversary's background knowledge into privacy quantification because it is very difficult to know what background knowledge the attacker may have. In the second part of the talk, I will present a novel framework called Injector that systematically extracts background knowledge from the original data using data mining techniques. Finally, I will conclude the talk with my plans for future research.

Biography:
Tiancheng Li is a Ph.D. candidate in the Department of Computer Science at Purdue University. His research interests are in the area of databases, data mining, and information security and privacy, with a focus on privacy preserving data publishing and sharing. Tiancheng Li received the Bilsland Dissertation Fellowship from Purdue University in 2009. He obtained a BS degree in Computer Science from Zhejiang University in 2005.